

FIG. 1

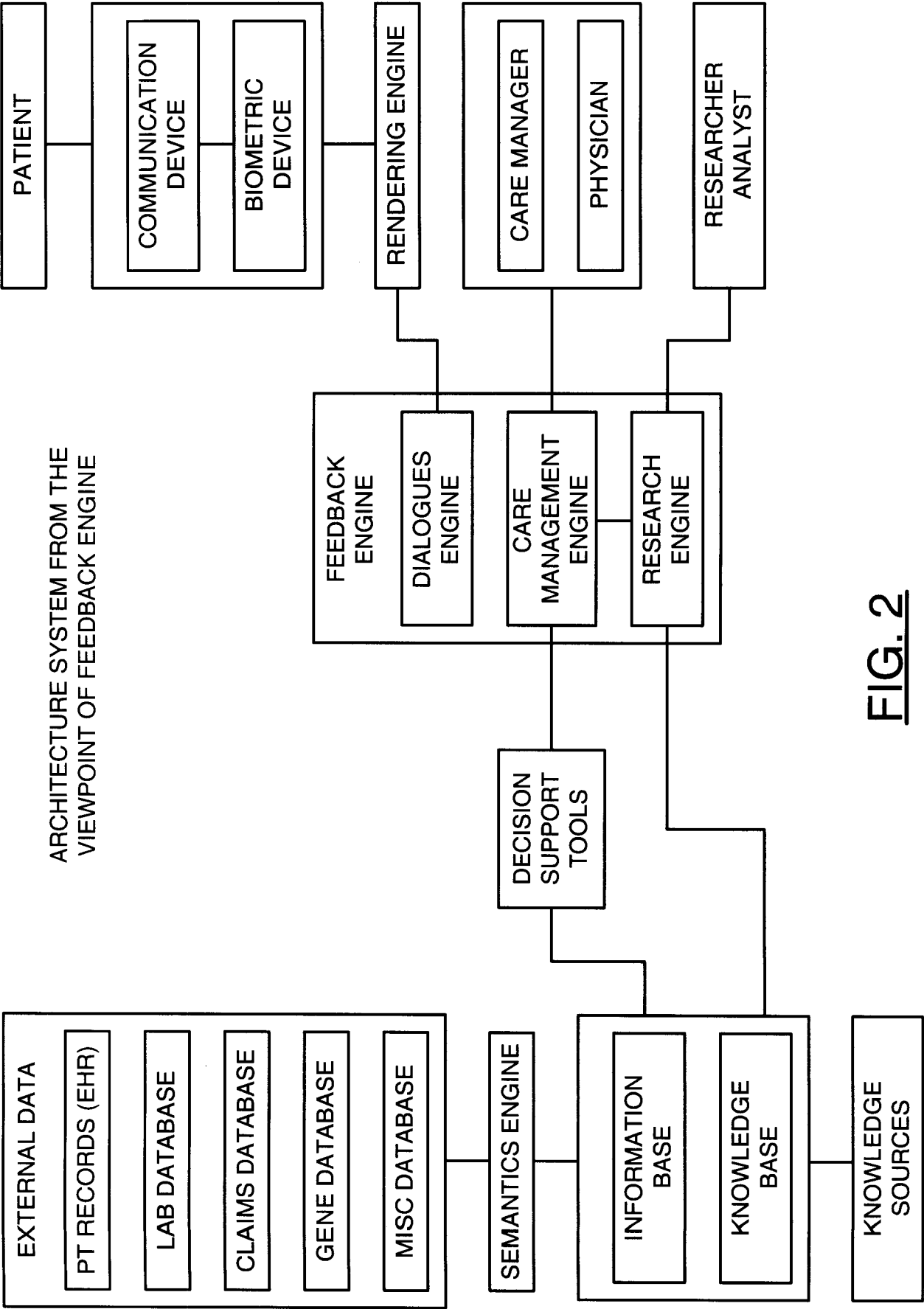
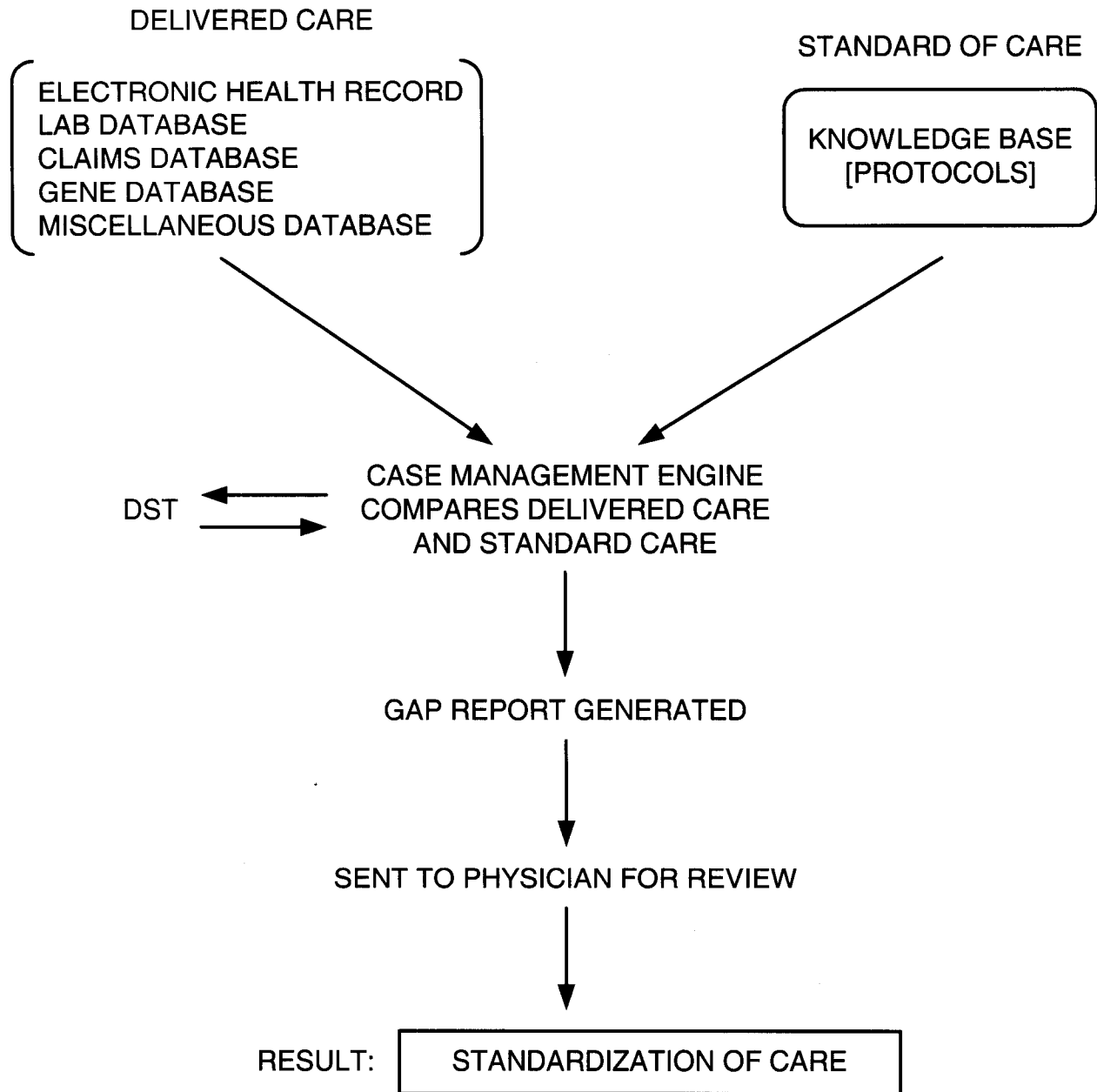


FIG. 2

FIG. 3

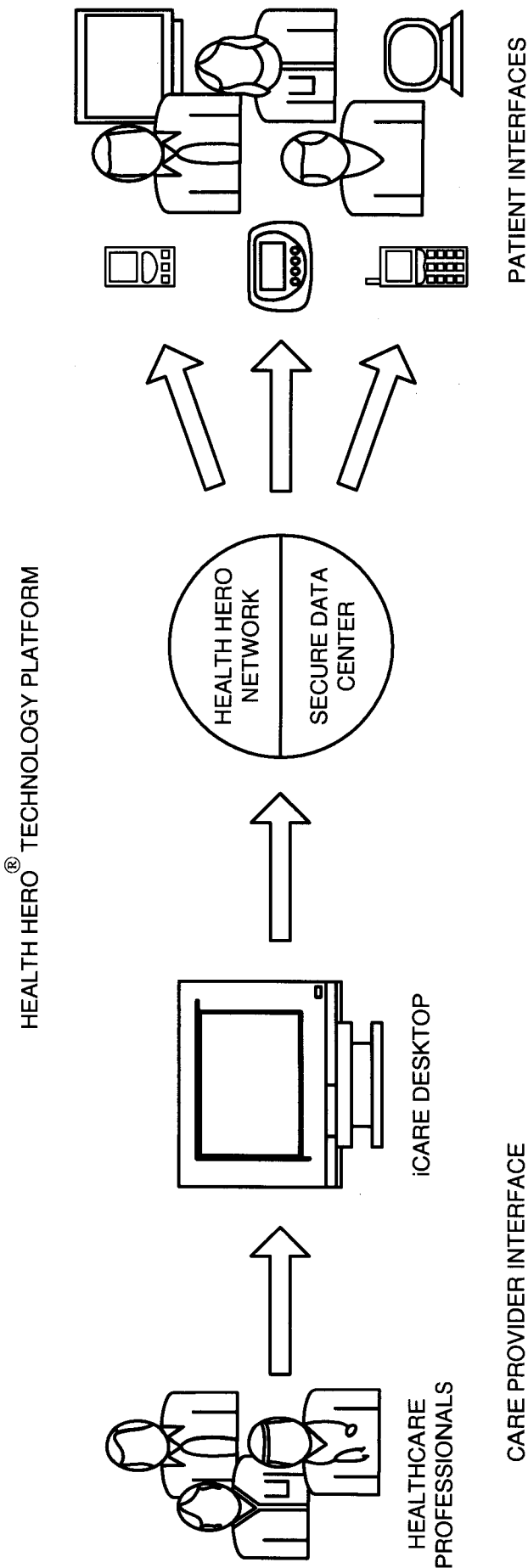


FIG. 4

Geoffrey Clapp Wed. November 26, 2003		HEALTH HERO NETWORK																																													
Find Patient <input style="width: 100px;" type="text"/> <small>(Last Name)</small>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: inline-block; line-height: 30px; text-align: center;">GO</div>																																														
<div style="display: flex; justify-content: space-around;">▶ Contact Health Hero▶ Help▶ Log Out</div>																																															
<div style="display: flex; justify-content: space-around;">HomePatientReportsEnrollmentDisenrollmentScheduleSetup</div>																																															
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;">You have 7 unreviewed inbox items: 1 Alert, 6 High Risk Results and 1 Note overdue</div>																																															
iCare Inbox		<div style="display: flex; justify-content: space-around;">RefreshSubmit</div>																																													
<div style="border: 1px solid black; padding: 5px;"><u>Check All</u> - <u>Clear All</u></div>																																															
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 5%;"></th><th style="width: 5%;"></th><th style="width: 15%;"><u>Date</u></th><th style="width: 15%;"><u>Category</u></th><th style="width: 60%;"><u>Subject</u></th></tr></thead><tbody><tr><td colspan="5" style="text-align: center;">▽</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">⚠</td><td><u>07/21/2003</u></td><td>Alert</td><td>2 pound weight gain for patient Gill, Hal</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">☑</td><td><u>07/21/2003</u></td><td>Results</td><td>High Risk Symptoms for Patient Lura, Craig</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">☑</td><td><u>07/20/2003</u></td><td>Results</td><td>High Risk Symptoms for Patient Clapp, Geoff</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">☑</td><td><u>07/20/2003</u></td><td>Results</td><td>High Risk Symptoms for Patient Colt, Laura</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">☑</td><td><u>07/19/2003</u></td><td>Results</td><td>High Risk Symptoms for Patient Cherry, Julie</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">☑</td><td><u>07/19/2003</u></td><td>Results</td><td>High Risk Symptoms for Patient Mann, Marie</td></tr><tr><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;">☑</td><td><u>07/19/2003</u></td><td>Results</td><td>High Risk Symptoms for Patient Wu, Dave</td></tr></tbody></table>					<u>Date</u>	<u>Category</u>	<u>Subject</u>	▽					<input type="checkbox"/>	⚠	<u>07/21/2003</u>	Alert	2 pound weight gain for patient Gill, Hal	<input type="checkbox"/>	☑	<u>07/21/2003</u>	Results	High Risk Symptoms for Patient Lura, Craig	<input type="checkbox"/>	☑	<u>07/20/2003</u>	Results	High Risk Symptoms for Patient Clapp, Geoff	<input type="checkbox"/>	☑	<u>07/20/2003</u>	Results	High Risk Symptoms for Patient Colt, Laura	<input type="checkbox"/>	☑	<u>07/19/2003</u>	Results	High Risk Symptoms for Patient Cherry, Julie	<input type="checkbox"/>	☑	<u>07/19/2003</u>	Results	High Risk Symptoms for Patient Mann, Marie	<input type="checkbox"/>	☑	<u>07/19/2003</u>	Results	High Risk Symptoms for Patient Wu, Dave
		<u>Date</u>	<u>Category</u>	<u>Subject</u>																																											
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FIG. 5

Luna, Craig
Fri, April 4, 2003

**HEALTH HERO
NETWORK**

Find Patient

(Last Name)

▶ Contact Health Hero
▶ Help
▶ Log Out

Home
Patient
Reports
Enrollment
Disenrollment
Schedule
Setup

Work List
Profile
Results
Trends
Notes

Use these options to change the work list below.

1. Show patients from which program?
 ▼

2. For which session date?
 ▼

3. For which care management?
 ▼

[Printer friendly version](#)

You are viewing sessions for **Nov 19, 2003** in the "**All Programs**" Program
Date: ◀ ▶

Responders' Risk Summary				
	Symptoms	Behavior	Knowledge	General
High Risk	2	2	0	0
Medium Risk	0	1	2	0
Low Risk	6	5	4	2
None	0	0	0	6

Patient Summary	
<u>Responders</u>	8
<u>Non-Responders</u>	4

Responses on Monday, November 19, 2003						
Patient	Response Time	Sympt.	Bhvr.	Kwldg.	Gen.	
● <u>Lang, Nancy</u>	<u>08:38 AM PST</u>	High	High		Low	
● <u>Cherry, Julie C.</u>	<u>08:41 AM PST</u>	High	Low	Low	None	
● <u>Beninger, Jennifer</u>	<u>11:15 AM PST</u>	Low	High	Medium	None	
● <u>Messing, Mel</u>	<u>10:16 PM PST</u>	Low	Medium		None	
○ <u>Lapp, Mary</u>	<u>09:38 AM PST</u>	Low	Low	Medium	None	
○ <u>Coll, Laurie</u>	<u>10:09 PM PST</u>	Low	Low	Low	None	
○ <u>Hoff, Jane</u>	<u>11:14 AM PST</u>	Low	Low	Low	Low	
○ <u>Man, Marie</u>	<u>09:12 AM PST</u>	Low	Low	Low	None	

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FIG. 6

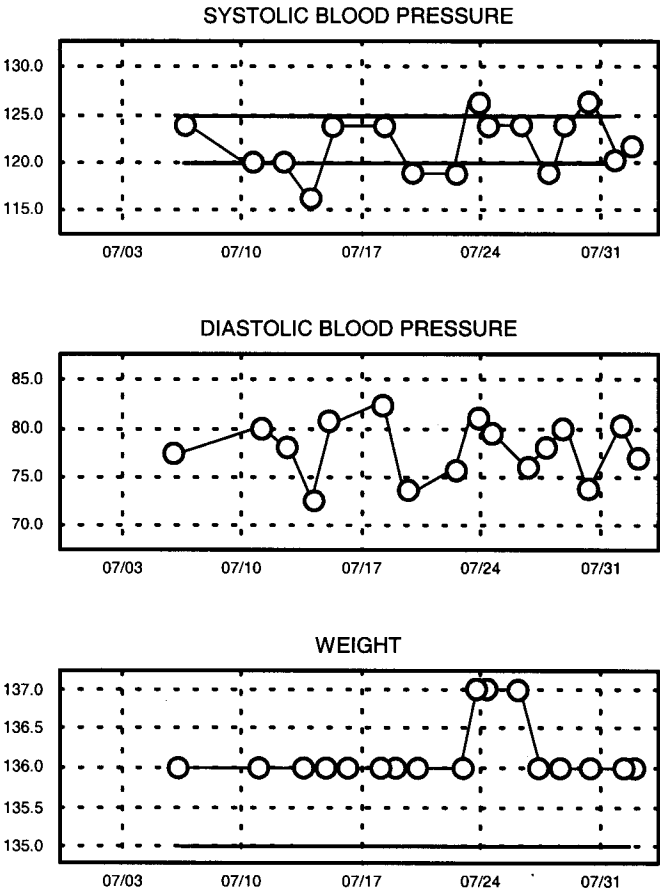


FIG. 7

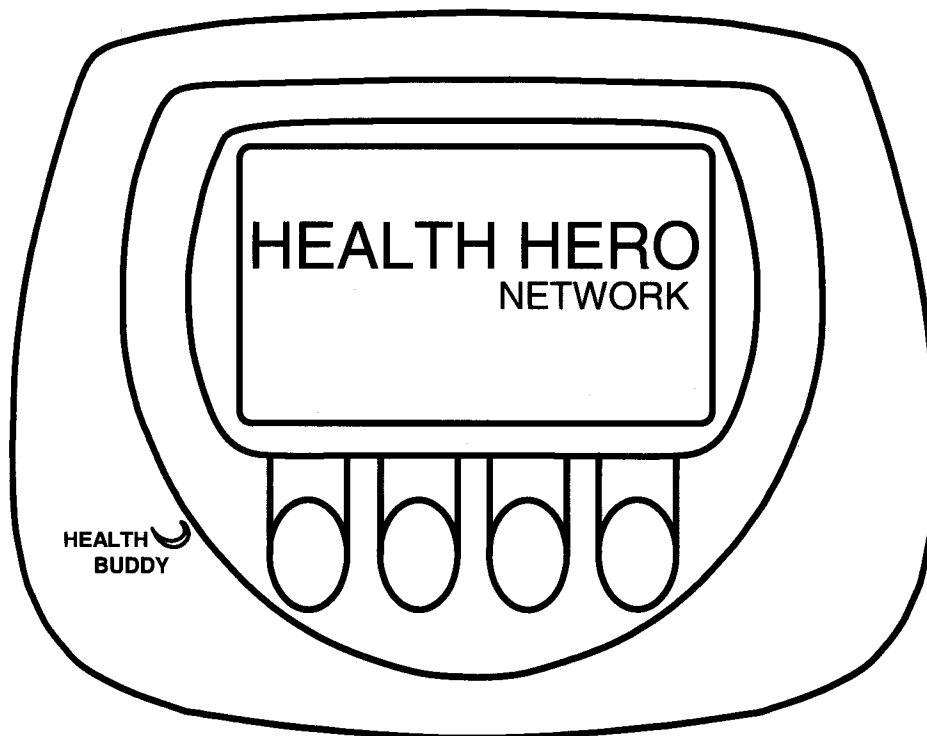
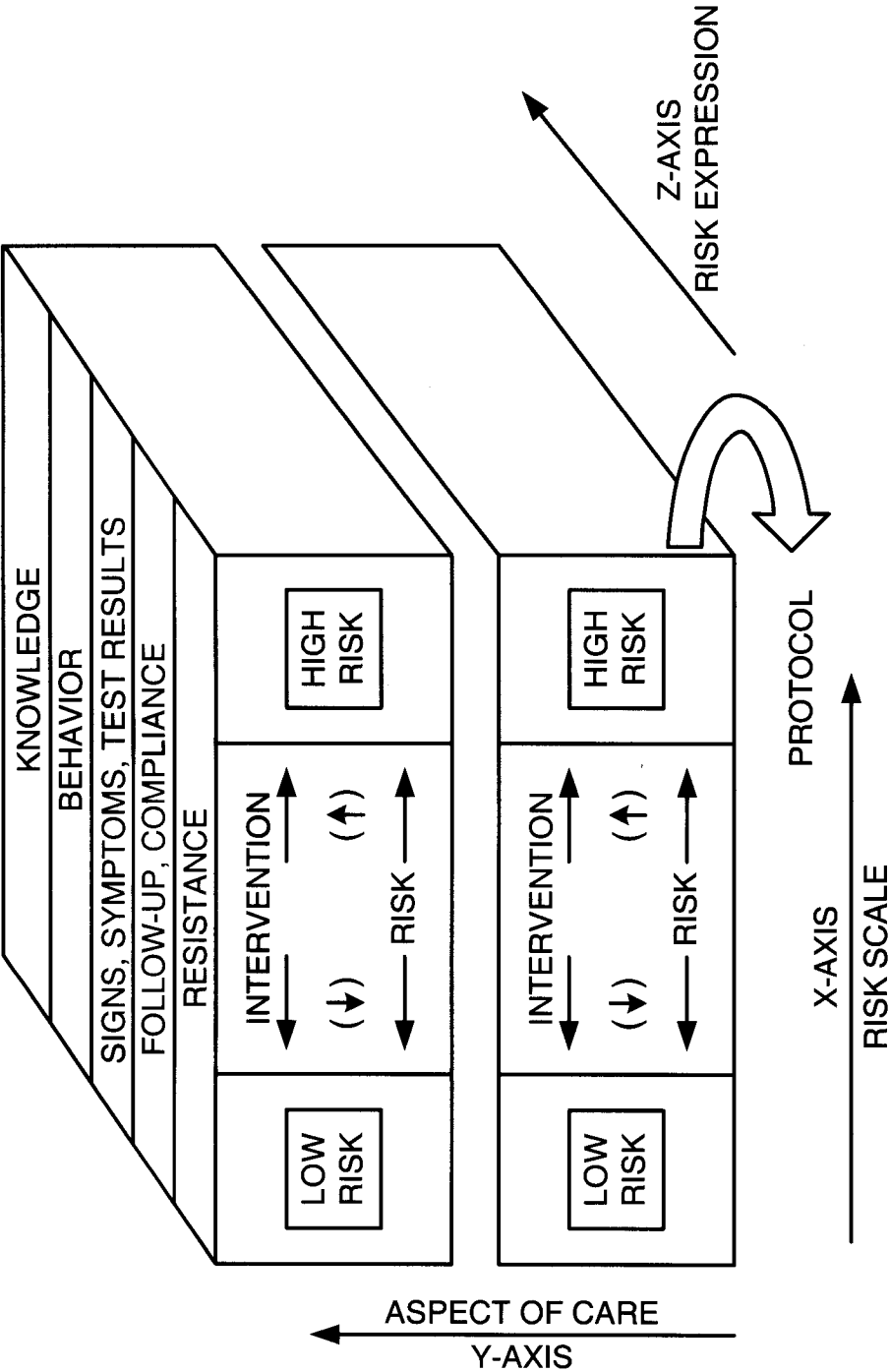


FIG. 8



A 3-DIMENSIONAL MODEL OF DISEASE

FIG. 9

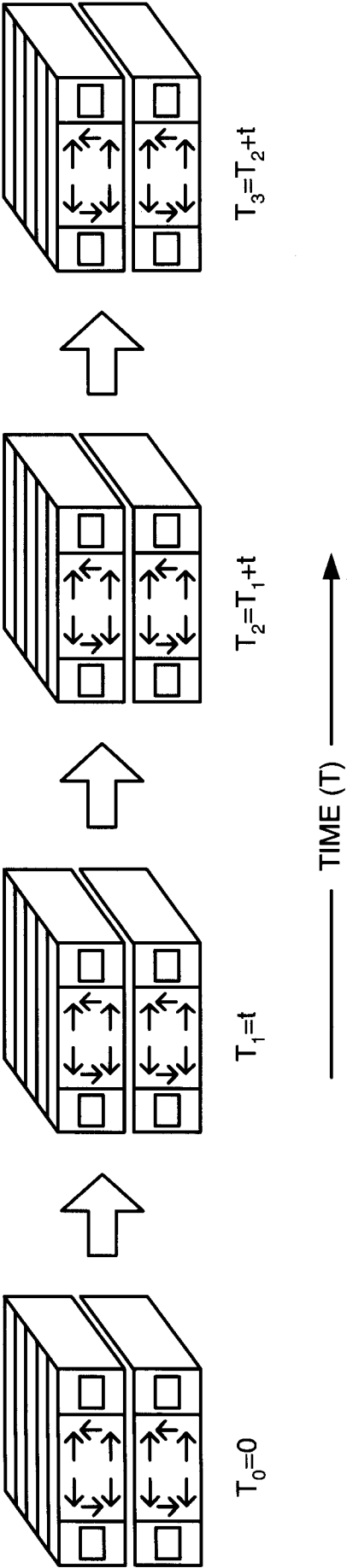
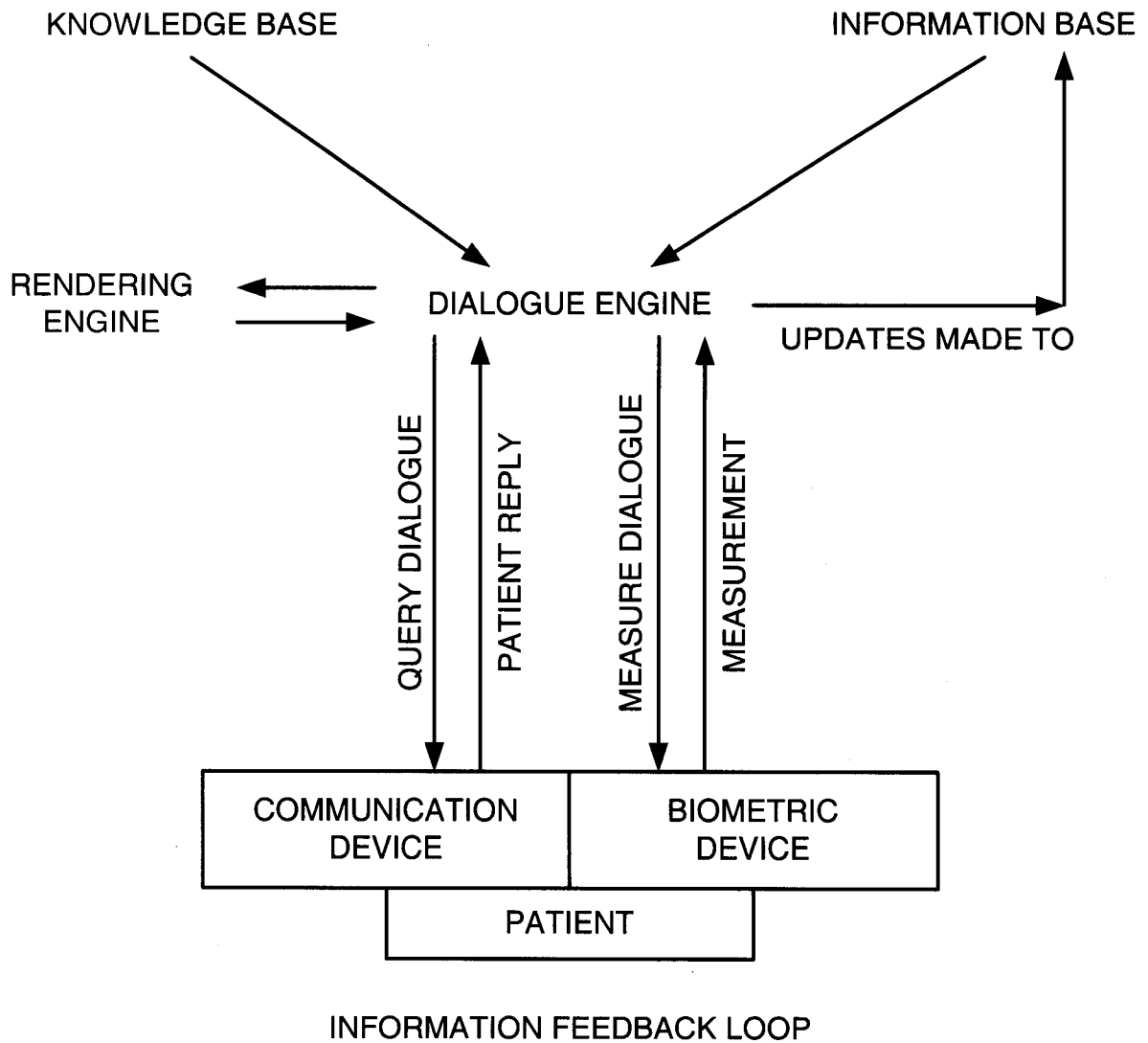
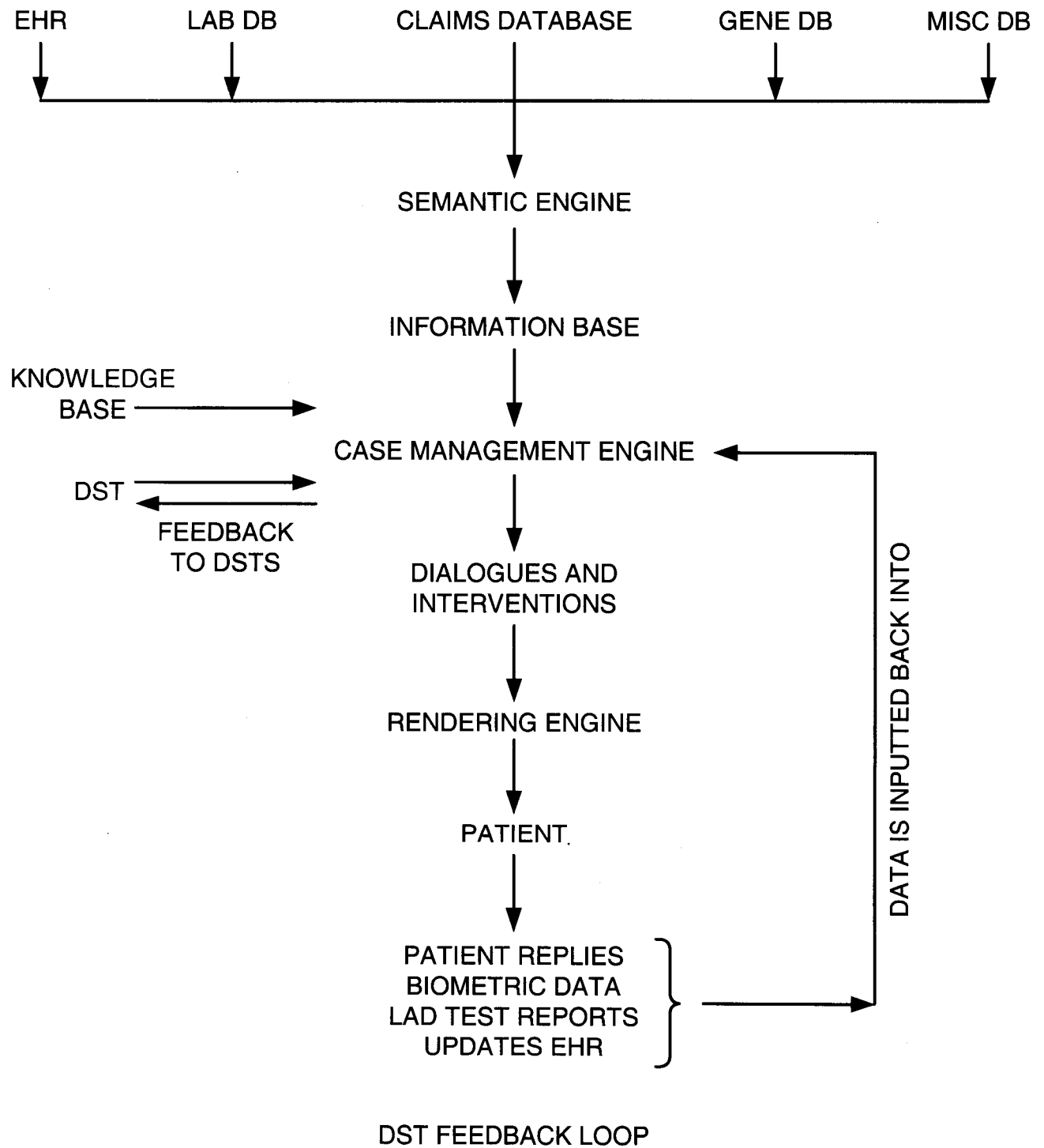
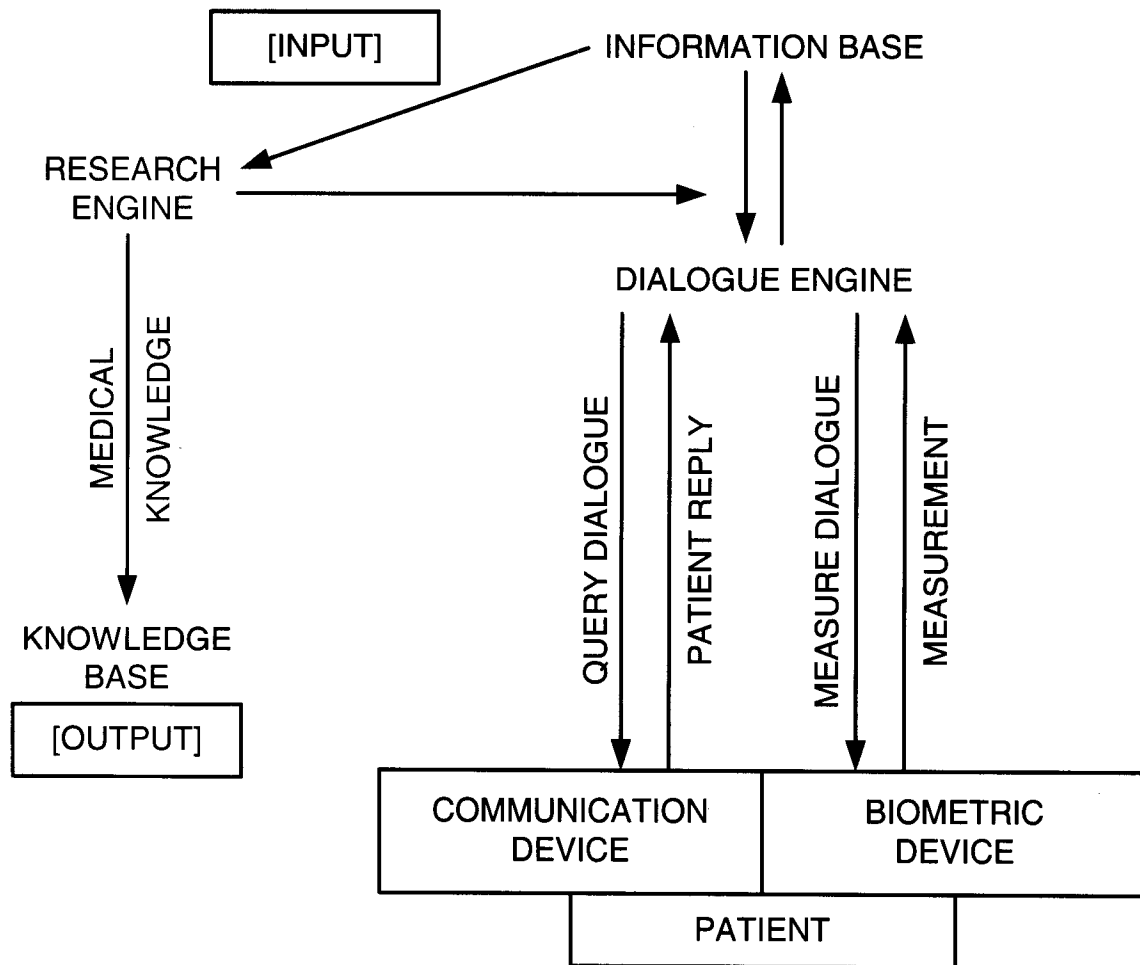


FIG. 10

FIG. 11

FIG. 12



RESEARCH FEEDBACK LOOP

FIG. 13

AGENDA

- ▣ HEALTH HERO NETWORK BACKGROUND
- ▣ CURRENT TECHNOLOGY SOLUTIONS
- ▣ CONTRIBUTION TO MEDKNOWLEDGEMENT
 - INFORMATION AND KNOWLEDGE ACQUISITION → THE FEEDBACK LOOPS
 - CONTRIBUTION TO INNOVATIONS
 - LINKAGE TO OTHER PARTS OF PROJECT
 - PATIENT TRIALS AND EXPECTED OUTCOMES

FIG. 14

HEALTH HERO NETWORK VISION

- ▣ A BETTER MODEL OF CARE IS POSSIBLE
- ▣ CRISIS CARE → COORDINATED CARE
- ▣ eHEALTH NETWORKS AND TECHNOLOGIES = A POWERFUL ENABLER

FIG. 15

HEALTH HERO NETWORK

- ☑ FOUNDED 1988 IN MOUNTAIN VIEW, CALIFORNIA. HEALTH HERO NETWORK LTD ESTABLISHED 2003 IN DUBLIN, IRELAND.
- ☑ 25 EMPLOYEES, \$5 MILLION ANNUAL SALES, SERVING 30 PROVIDER SITES AND 2500 PATIENTS WITH DAILY IN-HOME MONITORING.
- ☑ SOLUTION PARTNERS SIGNED IN IRELAND, FRANCE, NETHERLANDS. EXPECTING TO ADD SPAIN, BELGIUM, NORWAY IN 2003.
- ☑ LICENSEES INCLUDE VETERANS HEALTH AFFAIRS, MERCY HEALTH SYSTEM, AMERICAN MEDICAL ALERT, THERASENSE, PHILIPS.

FIG. 16

eHEALTH DEMONSTRATION: VETERANS HEALTH AFFAIRS (US)

- ☑ CHRONIC CARE PROGRAM USING MODEL OF CARE BASED ON eHEALTH NETWORKS AND TECHNOLOGIES FROM HEALTH HERO NETWORK
- ☑ 791 ELDERLY HIGH-RISK PATIENTS WITH HYPERTENSION, HEART FAILURE, COPD, DIABETES, ENROLLED FOR 1 YEAR, COMPARED TO COMPARISON GROUP DATA
- ☑ RESULTS (DISEASE MANAGEMENT, VOLUME 5, NUMBER 2, 2002)
 - 63% REDUCTION IN HOSPITAL ADMISSIONS
 - 60% REDUCTION IN HOSPITAL BED DAYS
 - 40% REDUCTION IN EMERGENCY ROOM VISITS
 - 64% REDUCTION IN NURSING HOME ADMISSIONS
 - 88% REDUCTION IN NURSING HOME BED DAYS
 - SIGNIFICANT IMPROVEMENT IN QUALITY OF LIFE

FIG. 17

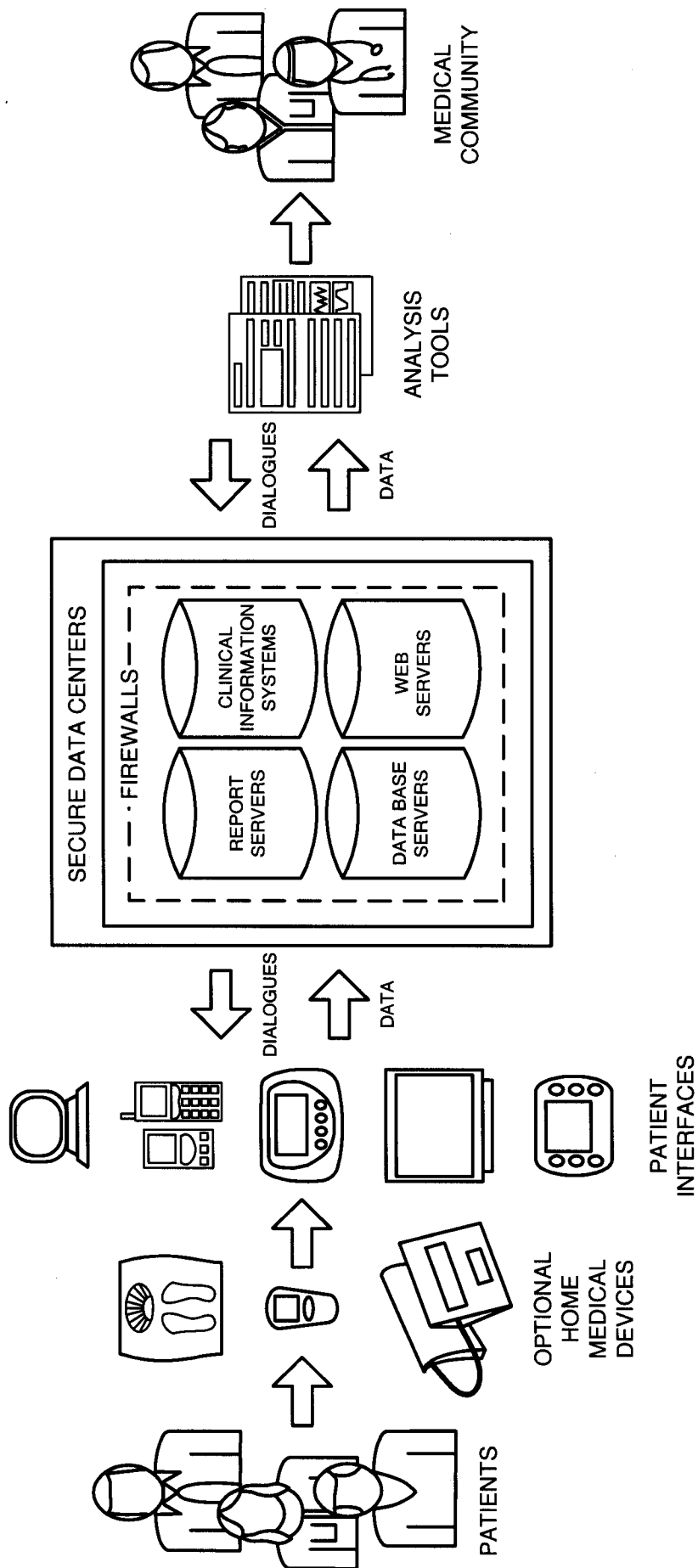
**eHEALTH DEMONSTRATION:
MERCY HEALTH SYSTEM (US)**

- ☒ DIABETES MANAGEMENT PROGRAM USING eHEALTH NETWORKS AND TECHNOLOGIES FROM HEALTH HERO NETWORK
- ☒ 169 LOW INCOME DIABETES PATIENTS, ONE YEAR STUDY PERIOD USING COMPARATIVE COHORT DATA FROM PREVIOUS CALENDAR YEAR
- ☒ RESULTS (DISEASE TECHNOLOGIES & THERAPEUTICS JOURNAL, DEC 2002)
 - OUTPATIENT VISITS REDUCED 49% ($p < 0.001$)
 - INPATIENT ADMISSIONS REDUCED 32% ($p < 0.07$)
 - ER ENCOUNTERS REDUCED 34% ($p < 0.06$)
 - SIGNIFICANT INCREASE IN QUALITY OF LIFE SCORES
 - MEDICATION COMPLIANCE INCREASED FROM 34% TO 94%

FIG. 18

HEALTH HERO NETWORK PLATFORM

VISION: OPEN SYSTEM FOR CHRONIC CARE RESEARCH AND INNOVATION, ANY DEVICE, ANY DISEASE, MANY PARTNERS



REPLACEMENT SHEET

10/821,120
1631

FIG. 19

DECISION SUPPORT TOOLS FOR CAREGIVERS

VISION: INTELLIGENT, SIMPLE, WEB-BASED, INTEGRATED WITH EXISTING CLINICAL INFORMATION SYSTEMS AND CARE PROCESSES

Find Patient

GO

(Last Name)

Home

Patient

Profile

Work List

Contact Health Hero

Reports

Enrollment

Disenrollment

Schedule

Setup

Luna, Craig

Fri, April 4, 2003

HEALTH HERO NETWORK

1. Show patients from which program?

----- All Programs -----

2. For which session date?

11/19/2003

3. For which care management?

----- All Care Managers -----

Use these options to change the work list below.

Printer friendly version

Create Work List

You are viewing sessions for Nov 19, 2003 in the "All Programs" Program

Date: < >

Responders' Risk Summary

Symptoms	Behavior	Knowledge	General
High Risk	2	2	0
Medium Risk	0	1	2
Low Risk	6	5	4
None	0	0	0

Patient Summary

Responders	8
Non-Responders	4

Responses on Monday, November 19, 2003

Patient	Response Time	Sympt.	Bhvr.	Kwldg.	Gen.
Lang, Nancy	08:38 AM PST	High	High	Low	Low
Cherry, Julie C.	08:41 AM PST	High	Low	Low	None
Bentinger, Jennifer	11:15 AM PST	Low	High	Medium	None
Messino, Mel	10:16 PM PST	Low	Medium	None	None
Lapp, Mary	09:38 AM PST	Low	Low	Medium	None
Coll, Laurie	10:09 PM PST	Low	Low	Low	None
Hoff, Jana	11:14 AM PST	Low	Low	Low	Low
Man, Marie	09:12 AM PST	Low	Low	Low	None

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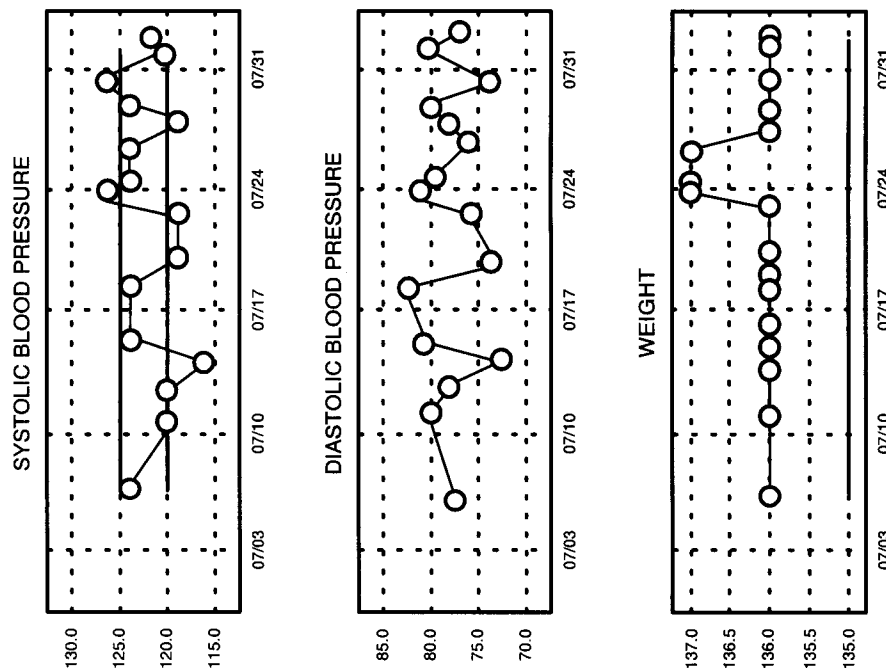


FIG. 20

DAILY DIALOGUE WITH THE PATIENT

VISION: INTELLIGENT, INTERACTIVE, PERSONALIZED, SIMPLE,
INTEGRATED WITH CONSUMER AND MEDICAL DEVICES

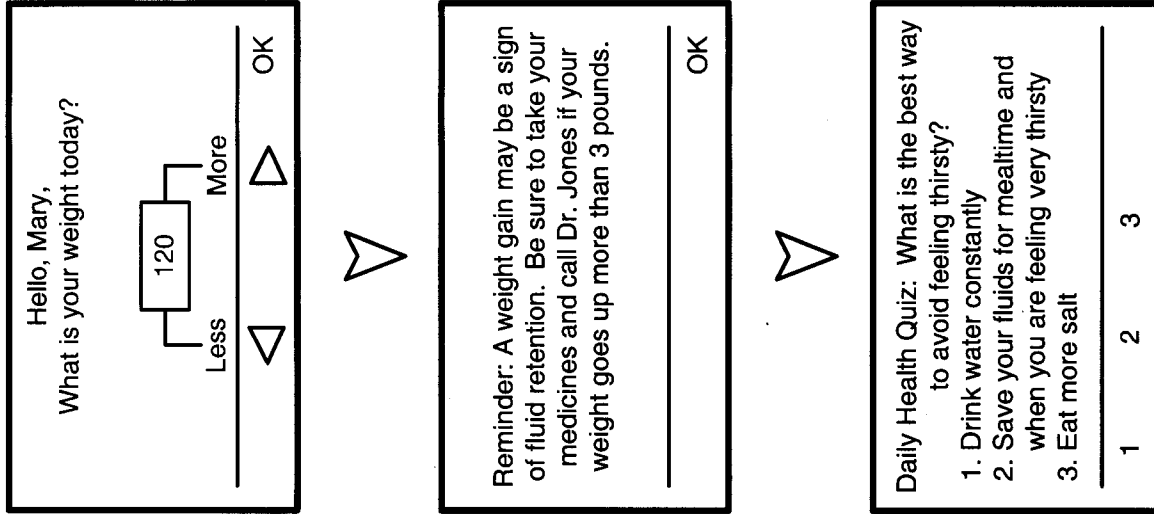
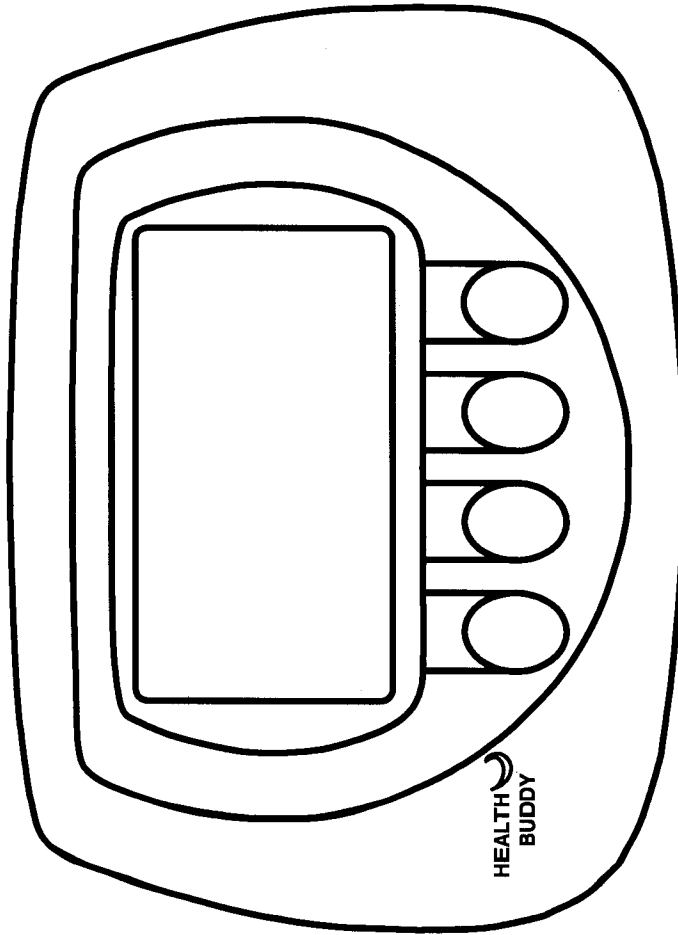


FIG. 21

FIG. 22

HEALTH HERO NETWORK CONTRIBUTION TO MEDKNOWLEDGEMENT

- ☑ 1.1 INFORMATION AND KNOWLEDGE SOURCES AND FORMATS
 - ☑ 1.2 INFORMATION ACQUISITION → INFORMATION BASE
 - ☑ 1.3 KNOWLEDGE ACQUISITION → KNOWLEDGE BASE
 - ☑ 1.4 INFORMATION AND KNOWLEDGE PROCESSING → DSTs TO IDENTIFY GAPS BETWEEN INFORMATION BASE AND KNOWLEDGE BASE (I.E., GAPS BETWEEN WHAT IS AND WHAT SHOULD BE)
 - ☑ 1.5 INFORMATION AND KNOWLEDGE RENDERING → RENDERING ENGINE IS THE INTERFACE TO END USERS
- ☑ 1.6 INFORMATION AND KNOWLEDGE ACQUISITION → THE FEEDBACK LOOPS

FIG. 23

INFORMATION AND KNOWLEDGE ACQUISITION → THE FEEDBACK LOOPS

- ☑ PATIENT DIALOGUE ENGINE: INDIVIDUALIZED COMMUNICATION
 - GENERATED USING INFORMATION AND KNOWLEDGE BASE
 - INTERFACE WITH RENDERING ENGINE
 - FEEDBACK TO INFORMATION BASE
- ☑ CARE MANAGEMENT ENGINE: JUST-IN-TIME CARE
 - GENERATED USING INFORMATION AND KNOWLEDGE BASE
 - FEEDBACK TO DSTs
- ☑ RESEARCH ENGINE: REAL-TIME RESEARCH
 - INTERFACE TO INFORMATION BASE [EXTRACT EXISTING DATA]
 - INTERFACE TO DIALOGUE ENGINE [WHEN NEW DATA IS REQUIRED]
 - FEEDBACK TO KNOWLEDGE BASE [NEW DISCOVERIES]

FIG. 24

HEALTH HERO NETWORK CONTRIBUTION TO INNOVATIONS

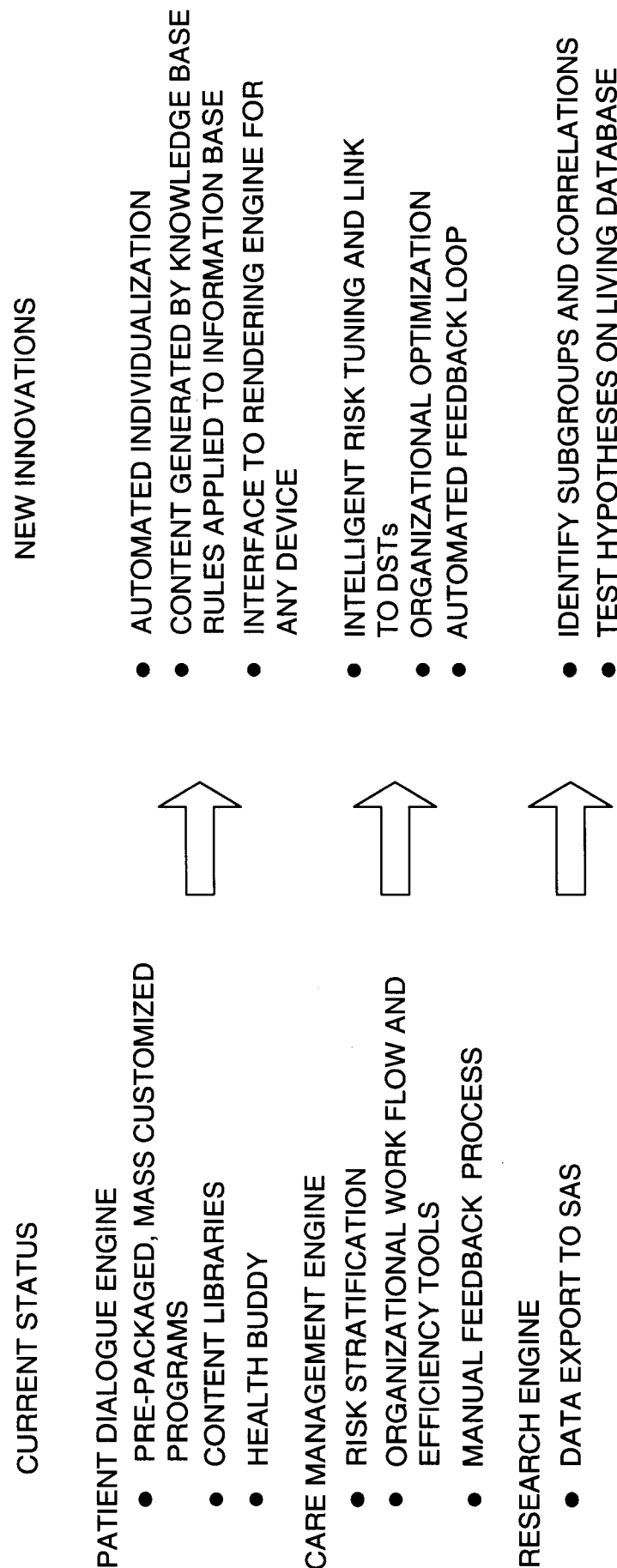
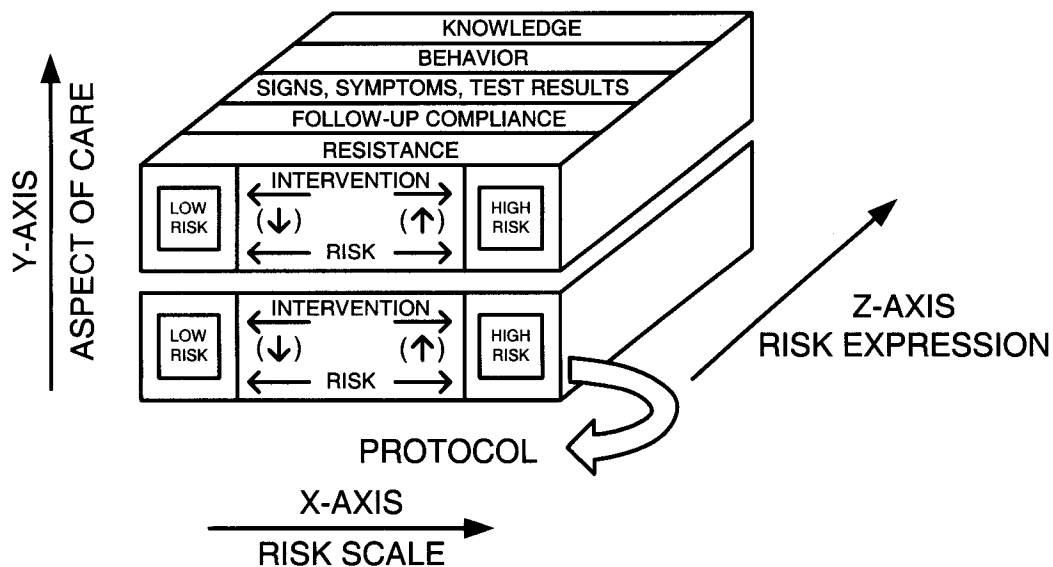


FIG. 25

INTEGRATING FEEDBACK LOOPS
WITHIN MEDKNOWLEDGE

- ▣ APPLICATION PROGRAM INTERFACES
- ▣ STANDARDS FOR DATA CLASSIFICATION
- ▣ ONTOLOGY FOR INFORMATION AND KNOWLEDGE USED IN FEEDBACK PROCESS



A 3-DIMENSIONAL MODEL OF DISEASE

FIG. 26

FEEDBACK PROCESS

OVERALL GOAL IS APPLY AND GENERATE MEDICAL KNOWLEDGE
IN A CONTINUOUS PROCESS THAT LEADS TO LOWEST ACHIEVABLE
RISK RESULTING IN:

- HIGHER QUALITY OF LIFE
- IMPROVED CLINICAL OUTCOMES
- LOWER COST OF CARE

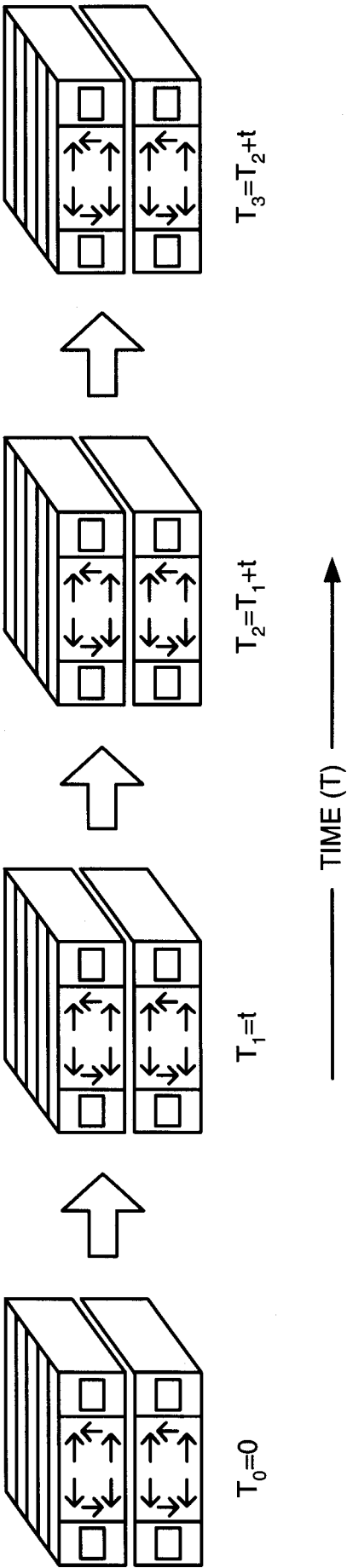


FIG. 27

EXPECTED RESULTS

- ☒ REDUCED EMERGENCY DEPARTMENT ENCOUNTERS AND HOSPITALIZATIONS BY DETECTING PATIENT PROBLEMS BEFORE THEY BECOME A CRISIS
- ☒ IMPROVED PATIENT COMPLIANCE BY EDUCATING, MOTIVATING AND MONITORING HEALTH STATUS AND BY PROVIDING PERSONALIZED AND RELEVANT INFORMATION
- ☒ IMPROVED SAFETY AND QUALITY OF CARE BY PROVIDING TIMELY AND ACTIONABLE INFORMATION TO HEALTHCARE PROFESSIONALS THROUGH QUALITY ASSURED PROCESSES THAT CAN BE CONTINUOUSLY IMPROVED
- ☒ CONTINUITY OF CARE, PARTICULARLY FOR THE ELDERLY, THROUGH INTEGRATED, INTERCONNECTED MONITORING AND INFORMATION SYSTEMS, RATHER THAN FRAGMENTED, EPISODIC, AND CRISIS DRIVEN CARE

FIG. 28